

Spring Colloquium

April 9, 3:30-4:30pm

Seitz 313

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The Statistical Analysis of Genetic Data at the National Center for Health Statistics: an Introduction

Certain large-scale population health surveys, such as the National Health and Nutrition Examination Survey (NHANES) conducted by the National Center for Health Statistics (NCHS), include the collection of biological specimens. Assuming necessary approvals and respondent consent are obtained, these specimens may also be utilized for genetic data analysis. Because NHANES and other population health surveys are nationally representative (e.g., civilian non-institutionalized population for NHANES), using such surveys for genetic data analysis may offer certain benefits such as a decreased probability of selection bias compared with other types of sampling strategies (such as convenience sampling). The first part of this presentation will briefly describe the NHANES DNA Specimens and Genetic Data Program, including some of the data products which are available. Because the design of NHANES and other population health surveys often have features such as stratification, multiple stages, and differing probabilities of selection, statistical analysis procedures which assume a simple-random sampling design structure are usually not adequate. NCHS currently has a statistical genetics working group which examines various aspects of the statistical analysis of genetic data from NHANES. The second part of this presentation will summarize some of the recent activities of the group including some analysis projects which have been undertaken.